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| 23373 | 7590 | 05/17/2007 | EXAMINER | |
| SUGHRUE MION, PLLC | | | MAYO III, WILLIAM H | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/510,031 | TACHIBANA ET AL. | |
| | Examiner | Art Unit | |
| | William H. Mayo III | 2831 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 02 March 2007.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,7,8,11,18,19 and 22-28 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1,7,8,11,18,19 and 22-28 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date March 2, 2007.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application

6) Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed April 2, 2007 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

Response to Amendment

2. The amendment submitted on March 2, 2007, lacks the status of claim 20, which depends from cancelled claim 13. Since, the applicant has cancelled claim 13 and claim 21 which also depends from the canceled claim 13, the examiner assumes that claim 20, which also depends from cancelled claim 13, has also been cancelled.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 22-23 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Inokoshi et al (JP Pat Num 02-132783, herein referred to as Inokoshi). Inokoshi teaches a lead connecting method that is simple to perform and provides highly reliable electrical welding without causing the strength of the lead connection portion to

deteriorate or cause burning thereof (see constitution). Specifically, with respect to claim 22, Inokoshi discloses a method for connecting a round wire (2) to a flat contact (1) of a connector (3) comprising setting an end portion of a single round conductive wire (2) on the flat contact (1), setting a pair of electrodes (4a & 4b) on the round conductive wire (2) on a side opposite the flat contact (1), wherein the electrodes (4a & 4b) are mutually separated in the lengthwise direction of said round wire (2), forming a flat surface (2a & 2b) in the end portion of the round conductive wire (2) by pressing the round conductive wire (2) against a flat contact (1) with the pair of electrodes (4a & 4b), and welding said flat side surface of the conductive wire (2) by passing an electrical current between the pair of electrodes (4a & 4b, constitution). With respect to claim 23, Inokoshi discloses that the forming of the flat side surface (2a & 2b) is performed at the same time as the welding of the flat side surface of the flat contact (Fig 4, constitution). With respect to claim 26, Inokoshi discloses a device (Figs 1-4) comprising a base (not shown) for supporting a substrate (3) comprising a flat contact (1), an end portion of a round conductive wire (2) disposed on the flat contact (1), a pair of electrodes (4a & 4b) on the round conductive wire (2) on a side opposite the flat contact (1), wherein the electrodes (4a & 4b) are mutually separated in the lengthwise direction of said round wire (2), pressing means (not shown) for causing the pairs of electrodes (4a & 4b) to press the round conductive wire (2) against a flat contact (1) with the pair of electrodes (4a & 4b), and applying a voltage means for passing an electrical current between the between the pair of electrodes (4a & 4b, constitution) to weld the flat side surface (2a & 2b) to the flat contact (1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura (Pat Num 5,808,260). Inokoshi teaches a lead connecting method that is simple to perform and provides highly reliable electrical welding without causing the strength of the lead connection portion to deteriorate or cause burning thereof (see constitution) as disclosed above with respect to claim 22.

Inokoshi also doesn't necessarily disclose the depth of a top color changed part being in the range of 0.1mm to a value immediately above which will cause blasting of the contact (claim 24).

With respect to claim 24, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of Inokoshi to comprise the state of the welding is within the scope in which a depth at the top of the color change part forming the arc on the contact is above a distance of 0.1mm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

8. Claims 25 & 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inokoshi et al (JP Pat Num 02-132783, herein referred to as Inokoshi) in view of Japanese Patent (JP 60-50079, herein referred to as JP). Inokoshi teaches a lead connecting method that is simple to perform and provides highly reliable electrical welding without causing the strength of the lead connection portion to deteriorate or cause burning thereof (see constitution) as disclosed above with respect to claim 22.

Inokoshi also doesn't specifically disclose the welding step comprising the dispersion of a layer of precious metal thinly covering the surface of the conductor of the cable, nor the distance being 5 μm (claims 25 & 27).

JP teaches a cable connection (Fig 1), wherein Au is utilized as a brazing filler metal to coat the conductor (1) to form an alloy layer, for the purpose of forming a strong soldering layer for bonding to another conductor (abstract).

With respect to claims 25 & 27, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the conductor wires of modified Asakura to comprise the AU solder layer configuration as

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taught by JP because JP teaches that such a configuration provides a strong soldering layer for bonding to another conductor (abstract).

With respect to claims 25 & 27, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of modified Inokoshi to comprise the state of the welding is within the scope in which a depth at the top of the color change part forming the arc on the contact is above a distance of 5 μm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura (Pat Num 5,808,260). Asakura also discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1). Specifically, with respect to claim 11, Asakura discloses a cable welding device (8 & 9) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1) comprising a base (not numbered) on which the connector (2) furnishing the contact (2a) is disposed, a pair of electrodes (8 & 9) mutually separated in the lengthwise direction (top to bottom) of the conductor (2), pressure means (10) capable of pressing the pair of electrodes (8 & 9) to

pressure the end (3a) of the conductor (3) against the connecting face (A) and a voltage applying means (23) capable of applying a voltage between the electrodes (6 & 7, Fig 1), wherein a plurality of contacts (2a) and an end (3a) of the conductor (3) comprising a pair of electrodes (8 & 9) moving a position to enable the contacts (2a) to be welded and pressured (Col 4, lines 45-62).

However, Asakura doesn't disclose the conductor being a plurality of groupings of the conductors (claim 11).

With respect to claim 11, it would have been obvious to one having ordinary skill in the art, at the time the invention was made to modify the conductor of Asakura to comprise a plurality of groupings of conductors, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. (*St. Regis Paper Co v. Bemis Co.*, 193 USPQ 8).

10. Claims 1, 7, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura (Pat Num 5,808,260) in view of Inokoshi et al (JP Pat Num 02-132783, herein referred to as Inokoshi). Asakura discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1). Specifically, with respect to claim 1, Asakura discloses a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face (A) by a pair of electrodes (8 & 9) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and an

electric current is passed between said pair of electrodes (8 & 9), welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62), wherein a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of the conductor (3) that comes into contact with the electrodes (8 & 9) is formed on as a flat surface (Fig 1). With respect to claim 7, Asakura discloses a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face (A) by a pair of electrodes (8 & 9) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and an electric current is passed between said pair of electrodes (8 & 9), welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62), wherein the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2), wherein a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of the conductor (3) that comes into contact with the electrodes (8 & 9) is formed on as a flat surface (Fig 1). With respect to claim 18, Asakura discloses that the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2).

Asakura doesn't specifically disclose the entire surface of the end of the conductor that comes in contact with the electrodes being formed as a flat surface (claims 1 & 7).

Inokoshi teaches a lead connecting method that is simple to perform and provides highly reliable electrical welding without causing the strength of the lead connection portion to deteriorate or cause burning thereof (see constitution). Specifically, Inokoshi discloses connection (Fig 1) comprising the cable (2) that has an conductor end (at 2a & 2b) which is pressurized against a connecting face (top of 1) of a contact (1) of a connector (3) by a pair of electrodes (4a & 4b) mutually separated in the lengthwise direction of said conductor (2) and an electric current is passed between said pair of electrodes (4a & 4b), welding said end of said cable (2) and said connecting face (top of 1) of the substrate (1) together, wherein a entire surface (2a & 2b) of the end of the conductor (2) that comes into contact with the connecting face (top of 1) of the contact (1) is formed as a flat surface and the entire surface of the conductor (2) that comes into contact with the electrodes (4a & 4b) is formed on as a flat surface (Fig 2, see areas 2a & 2b).

With respect to claims 1 & 7, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the electrodes of Asakura to comprise a flat configuration to provide the entire surface to be flat as taught by Inokoshi because Inokoshi teaches that such a configuration is simple to perform and provides highly reliable electrical welding without causing the strength of the lead connection portion to deteriorate or cause burning thereof (see constitution).

Modified Asakura also doesn't necessarily disclose the distance being 0.1mm (claims 7 & 18).

With respect to claims 7 & 18, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of Asakura to comprise the state of the welding is within the scope in which a depth at the top of the color change part forming the arc on the contact is above a distance of 0.1mm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

11. Claims 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura (Pat Num 5,808,260) in view of Inokoshi et al (JP Pat Num 02-132783, herein referred to as Inokoshi) and Japanese Patent (JP 60-50079, herein referred to as JP). Asakura discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1). Specifically, with respect to claim 8, Asakura discloses a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face (A) by a pair of electrodes (8 & 9) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and an electric current is passed between said pair of electrodes (8 & 9), welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62), wherein the state of the welding is within the

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scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2), wherein a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of the conductor (3) that comes into contact with the electrodes (8 & 9) is formed on as a flat surface (Fig 1).

Asakura doesn't specifically disclose the entire surface of the end of the conductor that comes in contact with the electrodes being formed as a flat surface (claim 8).

Inokoshi teaches a lead connecting method that is simple to perform and provides highly reliable electrical welding without causing the strength of the lead connection portion to deteriorate or cause burning thereof (see constitution). Specifically, with respect to claim 8, Inokoshi discloses connection (Fig 1) comprising the cable (2) that has an conductor end (at 2a & 2b) which is pressurized against a connecting face (top of 1) of a contact (5) of a substrate (1) by a pair of electrodes (4a & 4b) mutually separated in the lengthwise direction of said conductor (2) and an electric current is passed between said pair of electrodes (4a & 4b), welding said end of said cable (2) and said connecting face (top of 1) of the substrate (1) together, wherein a entire surface (2a & 2b) of the end of the conductor (2) that comes into contact with the connecting face (top of 1) of the contact (1) is formed as a flat surface and the entire surface of the conductor (2) that comes into contact with the electrodes (4a & 4b) is formed on as a flat surface (Fig 2, see areas 2a & 2b).

With respect to claim 8, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the electrodes of Asakura to comprise a flat configuration to provide the entire surface to be flat as taught by Inokoshi because Inokoshi teaches that such a configuration is simple to perform and provides highly reliable electrical welding without causing the strength of the lead connection portion to deteriorate or cause burning thereof (see constitution).

Modified Asakura also doesn't specifically disclose the welding step comprising the dispersion of a layer of precious metal thinly covering the surface of the conductor of the cable (claims 8 & 19).

JP teaches a cable connection (Fig 1), wherein Au is utilized as a brazing filler metal to coat the conductor (1) to form an alloy layer, for the purpose of forming a strong soldering layer for bonding to another conductor (abstract).

With respect to claims 8 & 19, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the conductor wires of modified Asakura to comprise the AU solder layer configuration as taught by JP because JP teaches that such a configuration provides a strong soldering layer for bonding to another conductor (abstract).

Modified Asakura also doesn't necessarily disclose the distance being 5 μm (claims 8 & 19).

With respect to claims 8 & 19, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of modified Asakura to comprise the state of the welding is within the scope in which a

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depth at the top of the color change part forming the arc on the contact is above a distance of 5 µm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

12. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozai (Pub Num 2003/0065625) in view of Inokoshi et al (JP Pat Num 02-132783, herein referred to as Inokoshi). Ozai discloses an electrical connector assembly for connecting a plurality of coaxial cables to a flat cable (purpose). Specifically, with respect to claim 13, Ozai discloses that a cable (1) comprising a connector (1) including a base (3) having a plurality of conductor contacts (4 & 5) on a surface of the base (3), comprising a plurality of first signal contacts (4) positioned at determined intervals along a y axial direction that is one direction parallel to the front face and disposed extending in the x axial direction that is one direction parallel to the front face, a plurality of second contacts (5) disposed on the rear and opposing the first signal contacts such that a flat plate is interposed therebetween, and a plurality of ground contacts (5) disposed on the first and second faces, wherein the a cable main body (6) comprising a plurality of wire conductors (not numbered) and a drain wire (9), wherein the first and second conductor are connected to first and second contacts (4), respectively, and wherein the drain wire (9) is connected to the ground contacts (5).

However, Ozai doesn't necessarily disclose the wire conductors and each of the contacts being mutually and electrically connected by welding, wherein the wire conductors have a flat surface in contact with the respective contacts (claim 28).

Inokoshi teaches a lead connecting method that is simple to perform and provides highly reliable electrical welding without causing the strength of the lead connection portion to deteriorate or cause burning thereof (see constitution). Specifically, with respect to claim 28, Inokoshi discloses connection (Fig 1) comprising the cable (2) that has an conductor end (at 2a & 2b) which is pressurized against a connecting face (top of 1) of a contact (5) of a substrate (1) by a pair of electrodes (4a & 4b) mutually separated in the lengthwise direction of said conductor (2) and an electric current is passed between said pair of electrodes (4a & 4b), welding said end of said cable (2) and said connecting face (top of 1) of the substrate (1) together, wherein a entire surface (2a & 2b) of the end of the conductor (2) that comes into contact with the connecting face (top of 1) of the contact (1) is formed as a flat surface and the entire surface of the conductor (2) that comes into contact with the electrodes (4a & 4b) is formed on as a flat surface (Fig 2, see areas 2a & 2b).

With respect to claim 28, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the electrodes of Asakura to comprise a flat configuration to provide the entire surface to be flat as taught by Inokoshi because Inokoshi teaches that such a configuration is simple to perform and provides highly reliable electrical welding without causing the strength of the lead connection portion to deteriorate or cause burning thereof (see constitution).

Response to Arguments

13. Applicant's arguments with respect to claims 1, 7-8, 11, 18-19, and 22-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-

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272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
May 10, 2007